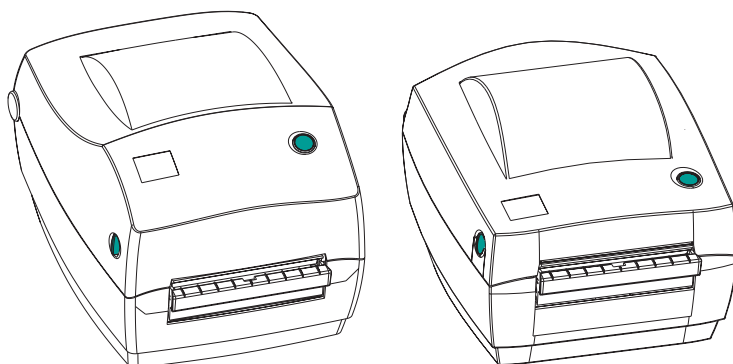


***TLP2844™ and LP2844™
Thermal Printers
User's Manual***



Eltron®

User's Manual No. 980316-001

Rev. A

FOREWORD

This manual provides installation and operation information for the LP2844 and the TLP2844 series printers, manufactured by Zebra Technologies Corporation, Camarillo, California.

COPYRIGHT NOTICE

This document contains information proprietary to Zebra Technologies Corporation. This document and the information contained within is copyrighted by Zebra Technologies Corporation and may not be duplicated in full or in part by any person without written approval from Zebra Technologies Corporation. While every effort has been made to keep the information contained within current and accurate as of the date of publication, no guarantee is given or implied that the document is error-free or that it is accurate with regard to any specification. Zebra Technologies Corporation reserves the right to make changes, for the purpose of product improvement, at any time.

TRADEMARKS

LP2844 and TLP2844 are service marks and Eltron is a registered trademark of Zebra Technologies Corporation. Windows and MS-DOS are registered trademarks of Microsoft Corp. All other marks are trademarks or registered trademarks of their respective holders.

LP2844 and TLP2844 Thermal Printers



European Council Directive		Compliance to Standards	
89/336/EEC	EMC Directive	EN 55022-A, CISPR 22	RF Emissions control
92/31/EE	EMC Directive	EN 50082-1 IEC 801	Immunity to Electro-magnetic Disturbances
92/31/EE	EMC Directive	EN 61000-3-2	Harmonic Emissions
92/31/EE	EMC Directive	EN 61000-3-3	Voltage Variation

FCC - DECLARATION OF CONFORMITY:



Models: LP2844 and TLP2844 conform to the following specification:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a) Class B digital device

Supplemental Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following Two Conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INDUSTRY CANADA NOTICE:

This device complies with Industry Canada ICS-003 class B requirements.

Cet équipement est conforme à l'ICS-003 classe B de la norme Industrielle Canadian

WARRANTY INFORMATION

We Need To Hear From You!

**To Establish Your Warranty Period And Provide Access To Technical Support,
Send Us Your Product Registration Card Today!**

Zebra Technologies Corporation warrants the mechanism, control electronics and power supply, under normal use and service, to be free from defects in material and workmanship for a period of twelve (12) months from the date of purchase by the end user. Zebra Technologies Corporation warrants the print head, under normal use and service, to be free from defects in material and workmanship for a period of ninety (90) days or 30KM of printing (whichever occurs first) from the date of purchase by the end user. Proof of purchase or product registration is required. If proof of purchase or product registration cannot be established, shipment date to the original buyer (dealer or distributor) will be used to establish the warranty period.

Failure to exercise caution to protect the equipment from electrostatic discharge damage, adverse temperature and humidity conditions or physical abuse may void the warranty. Failure to use only Eltron brand approved media may void the warranty. Zebra Technologies Corporation will, at its option, repair or replace the equipment or any parts which are determined to be defective within this warranty period, and which are returned to Zebra Technologies Corporation F.O.B. factory of origin.

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. Zebra Technologies Corporation specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

RETURN MATERIALS AUTHORIZATION

Before returning any equipment to Zebra for in warranty or out of warranty repair, contact Repair Administration for a Return Materials Authorization (RMA) number. Repack the equipment in the original packing material and mark the RMA number clearly on the outside. Ship the equipment, freight prepaid, to the address listed below:

**Eltron RMA, USA
1001 Flynn Road
Camarillo, CA. 93012
Phone: +1 (805) 579-1800
repair@eltron.com**

**Label Printers:
Zebra Technologies, Europe
Zebra House
The Valley Centre, Gordon Road
High Wycombe
Buckinghamshire HP13 6EQ, UK
Phone: +44 (0) 1494 472872
FAX: +44 (0) 1494 450103**

**Card Printers:
Zebra Technologies, Europe
Zone Industrielle, Rue d'Amsterdam
44370 Varades, France
Phone: +33 (0) 240 097 070
FAX: +33 (0) 240 834 745**



SHOCK HAZARD WARNING:

The printer and power supply should never be operated in a location where either one can get wet. Personal injury could result.



MEDIA AND RIBBON WARNING:

Always use high quality Eltron approved labels, tags and ribbons. If adhesive backed labels are used that DO NOT lay flat on the backing liner, the exposed edges may stick to the label guides and rollers inside the printer, causing the label to peel off from the liner and jam the printer. Permanent damage to the print head may result if a non-Eltron ribbon is used as it may be wound incorrectly for the printer or contain chemicals corrosive to the print head. Eltron approved supplies can be ordered from your ELTRON dealer. For the name of a dealer in your area, call the nearest Eltron office (see the back cover).



RELOADING HINT:

If labels or ribbon run out while printing, DO NOT turn the power switch OFF (0) while reloading or data loss may result. The printer automatically restarts after you load a new label or ribbon roll.



STATIC DISCHARGE:

The discharge of electrostatic energy that accumulates on the surface of the human body or other surfaces can damage or destroy the print head or electronic components used in this device. DO NOT TOUCH the print head or the electronic components under the top cover.



THERMAL PRINTING:

The print head becomes hot while printing. To protect from damaging the print head and risk of personal injury, avoid touching the print head. Use only the cleaning pen to perform maintenance.

TABLE OF CONTENTS

Installation and Operation	1
Unpack Your Printer	2
Know Your Printer	2
Installation	4
AutoSense Media Gap Sensing	9
Operation	12

Using Options	13
Using Transfer Ribbon	14
Using the Label Dispenser	19
Using Fan-Fold Media	20
Using the Media Cutter	21

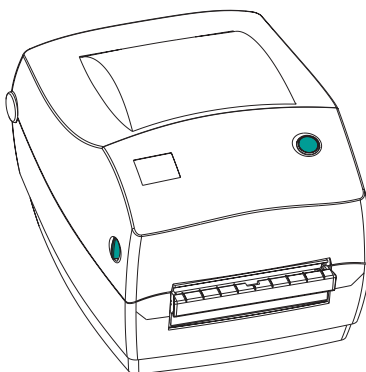
Appendix A - Troubleshooting	23
Other Support Resources	26
Serial Interface Cable Wiring.	27
Parallel Interface Cable Wiring.	28
Universal Serial Bus (USB).	29
Cleaning the Print Head	30
Cleaning the Platen	31

Appendix B - Accessories	33
---	-----------

Installation and Operation

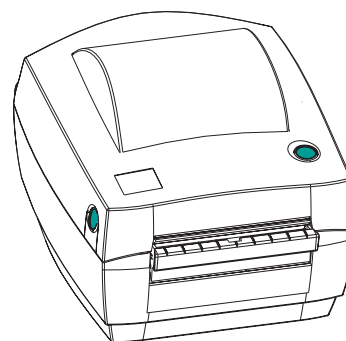
This section provides information on the installation and operation of the printer.

The printer is a low cost, desktop thermal printer. The printer is specifically designed for printing labels, tags or continuous receipts (with or without bar codes) from any DOS™, Windows™ or ASCII-based compatible host. There are two models of the printer.



TLP

*Direct thermal and
thermal transfer printing*

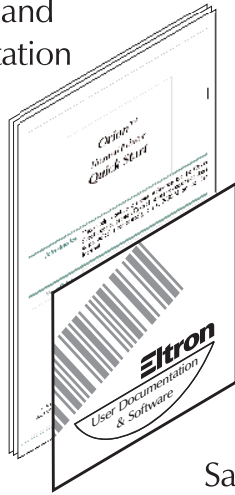


LP

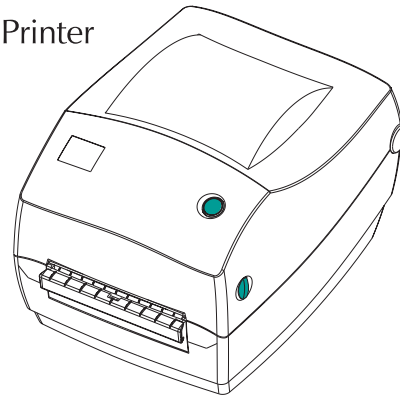
Direct thermal printing

Unpack Your Printer

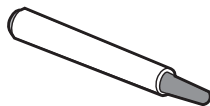
Software and
Documentation



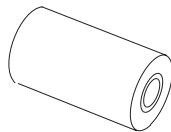
Printer



Cleaning
Pen



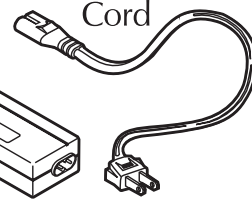
Sample
Labels



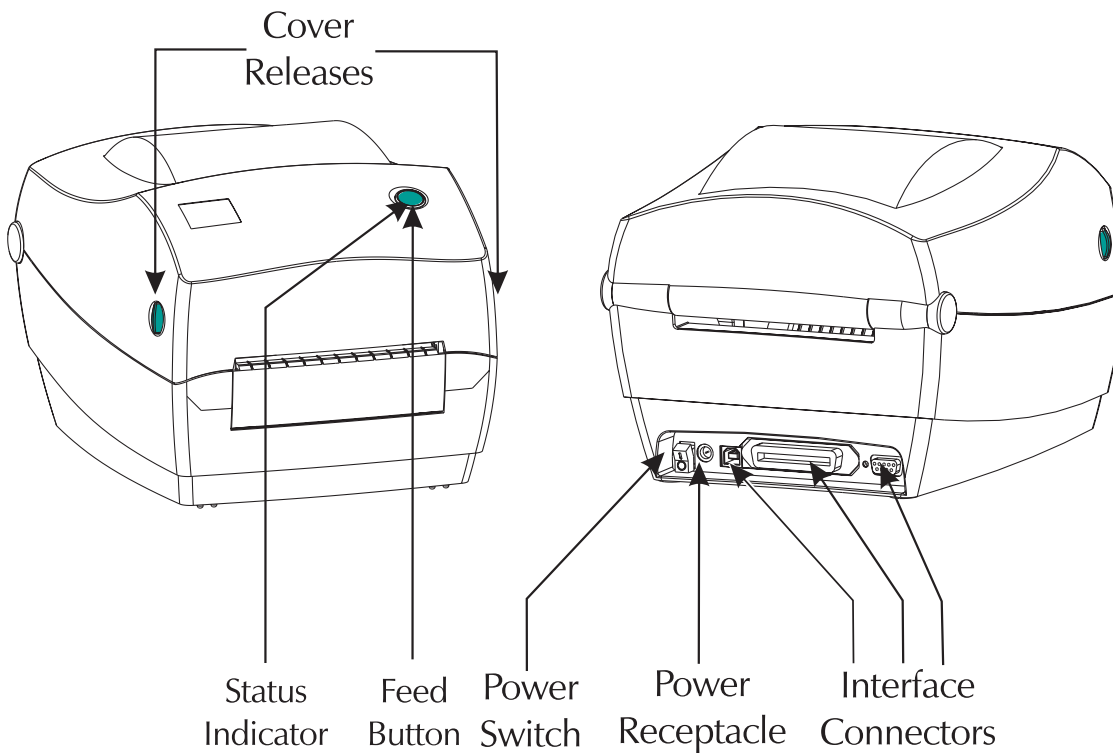
Power
Supply

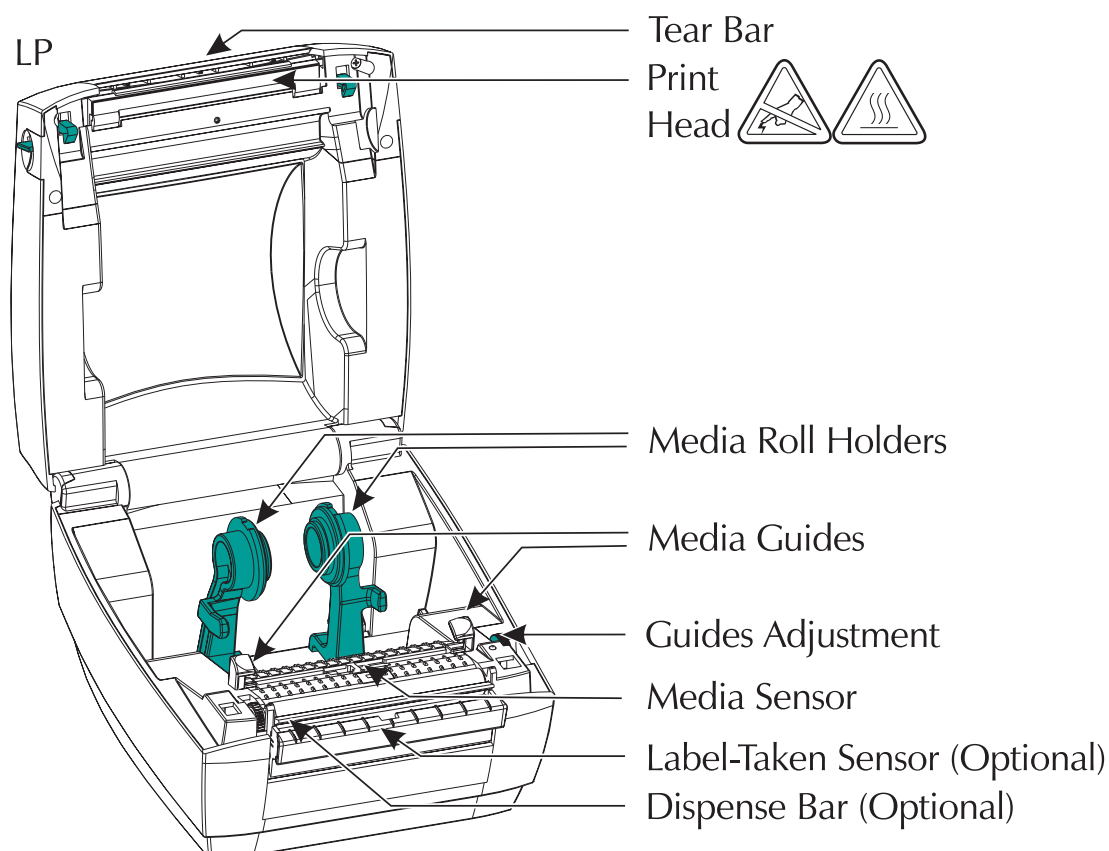
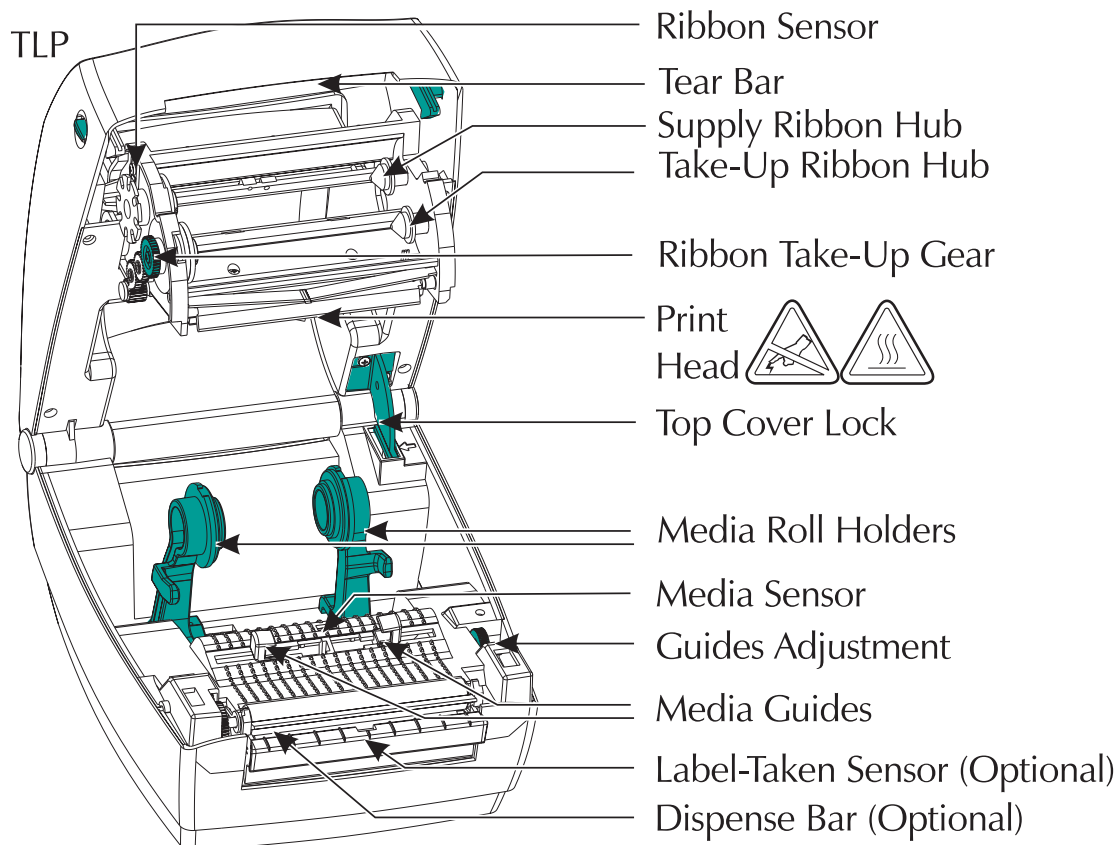


Power
Cord



Know Your Printer

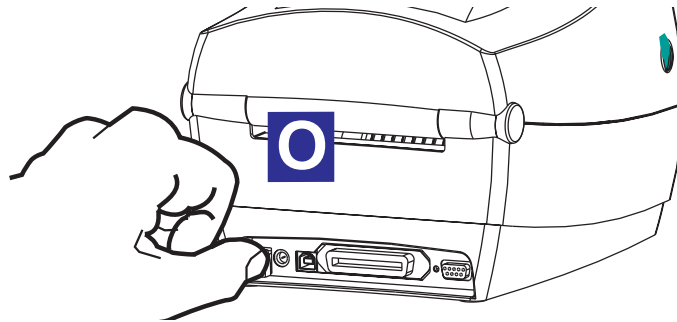




Installation The following steps will guide you through the installation of the printer and software.

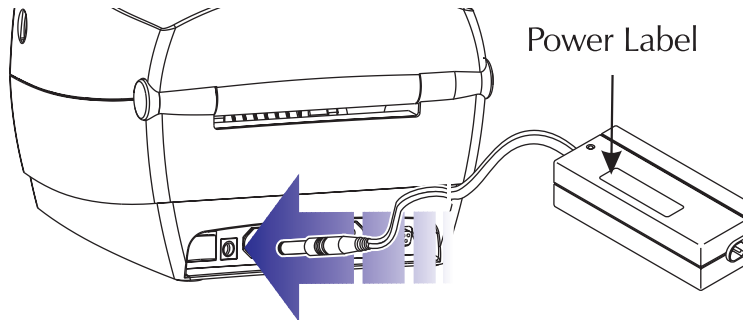
Step ❶ Attach Power Supply To The Printer

Power OFF

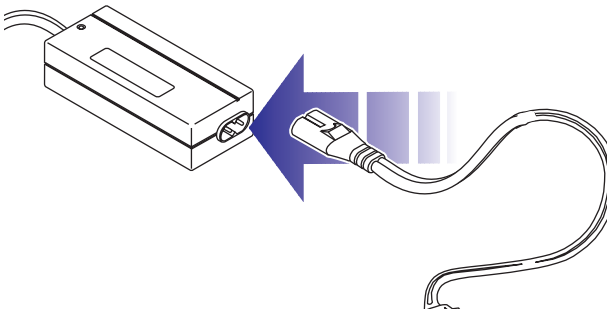


Check Voltage

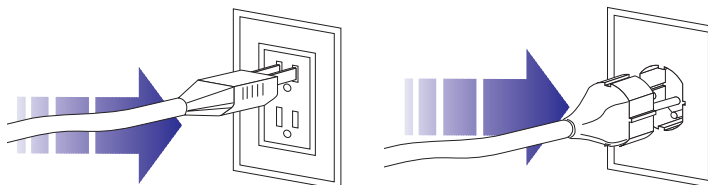
**Plug in
Power
Module**



**Plug in
Power
Cord**



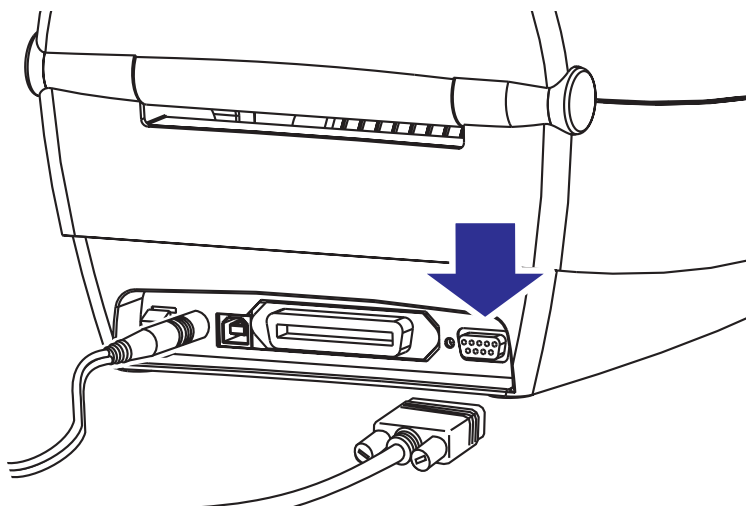
**Plug Power Cord
into a Suitable
AC Outlet**



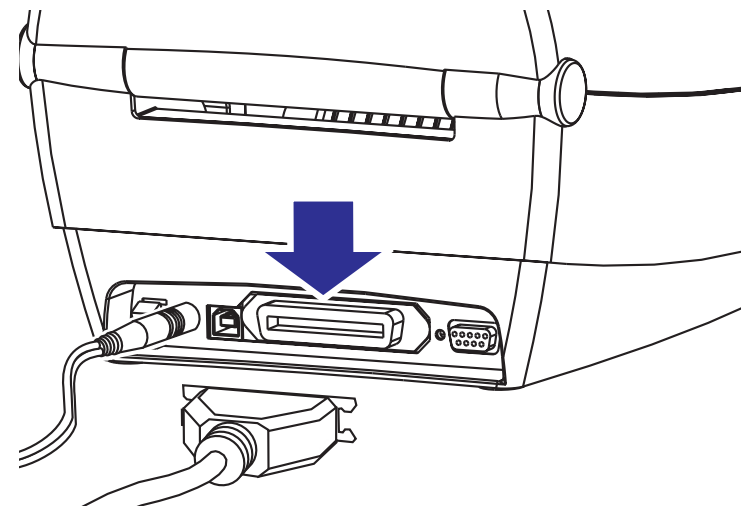
See the SHOCK HAZARD WARNING on page iv.

Step 2 Attach Interface Cable

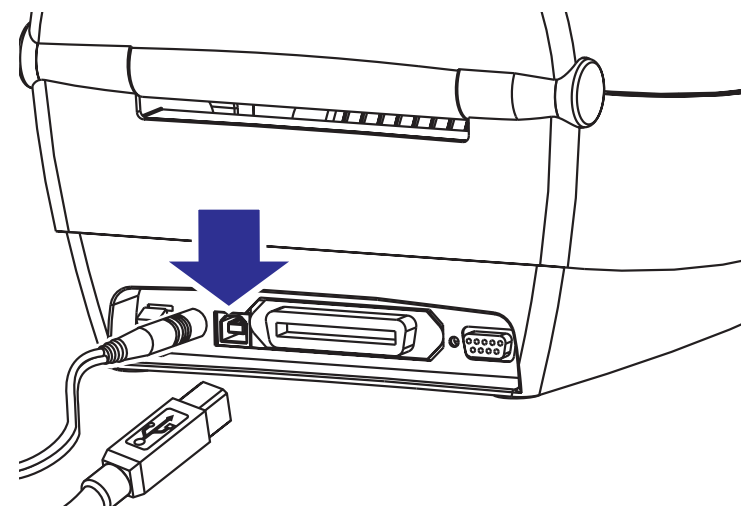
Serial



Parallel



*Universal Serial Bus
(USB)*

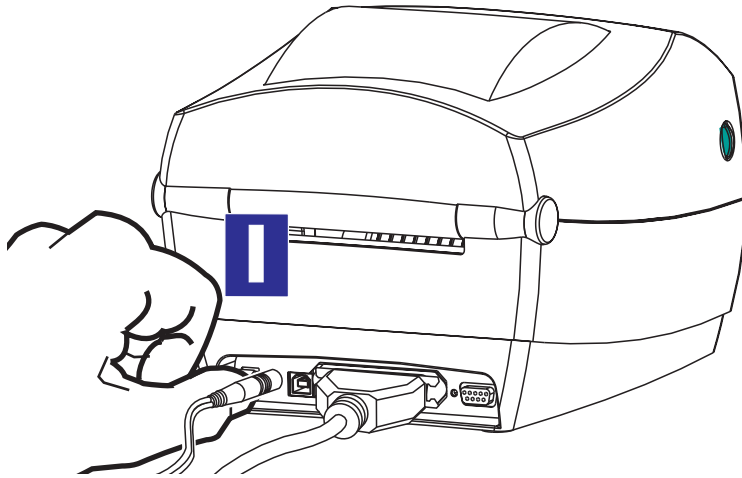


See Appendix A for cable wiring information.

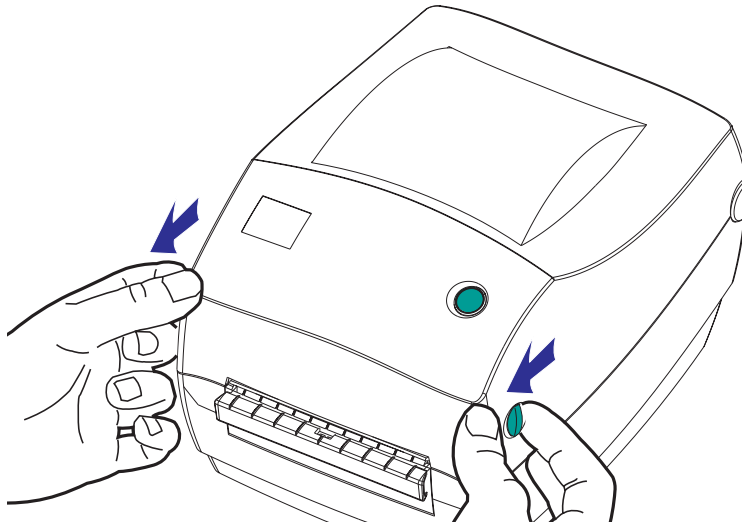
Step ③ Load Media



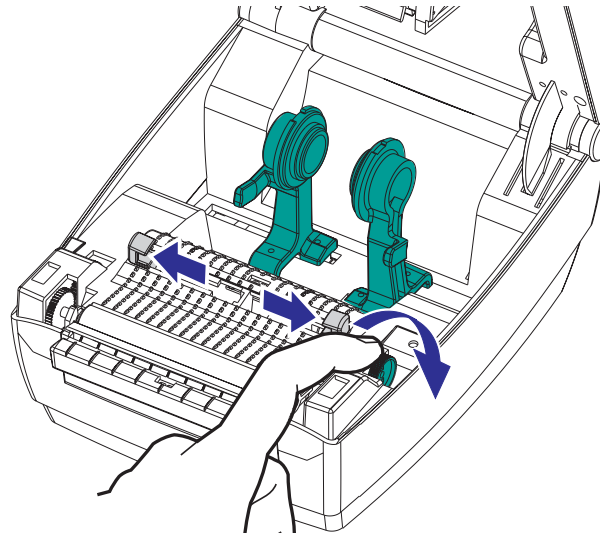
Power ON



Open Cover

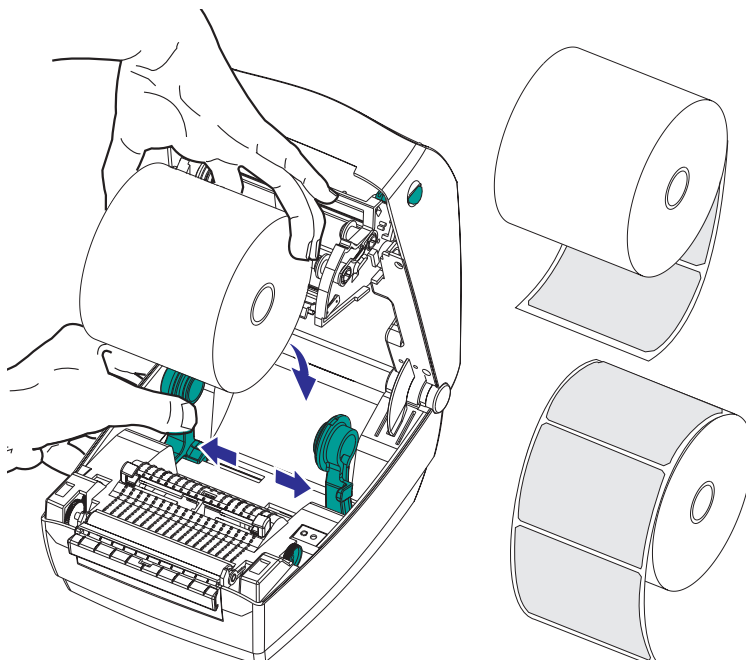


Open Guides



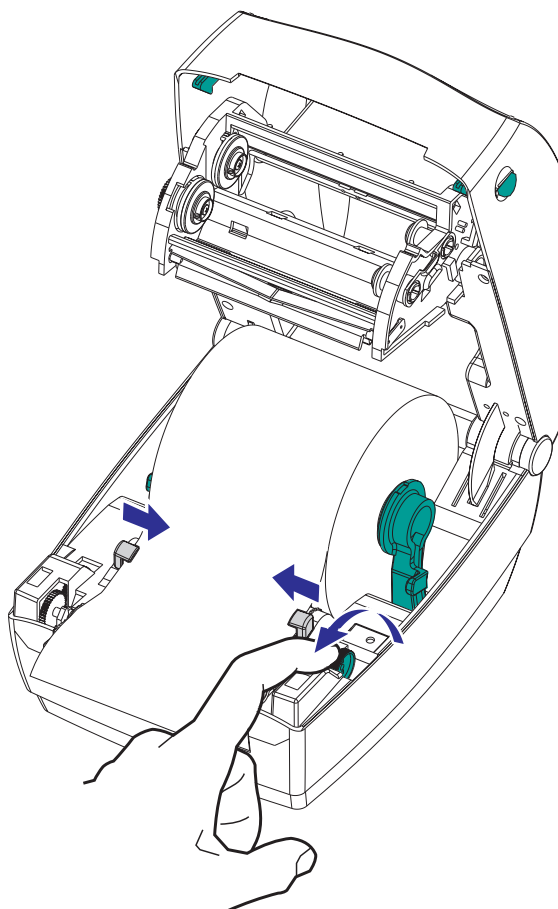
Load Media - continued

Install Roll



Close Guides to the Width of the Media

***Note: When using
linerfree labels,
adjust the guides to
the widest position***

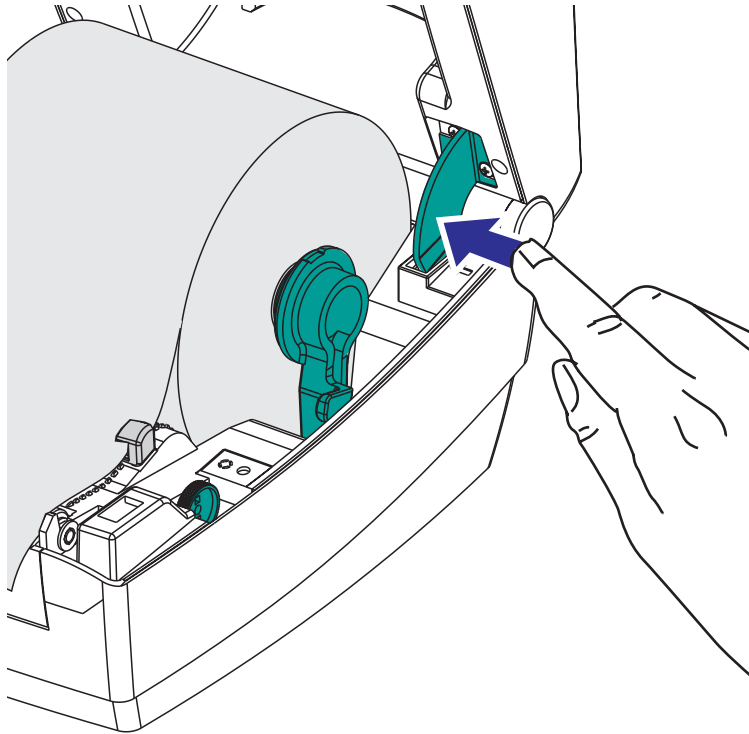


Load Media - continued

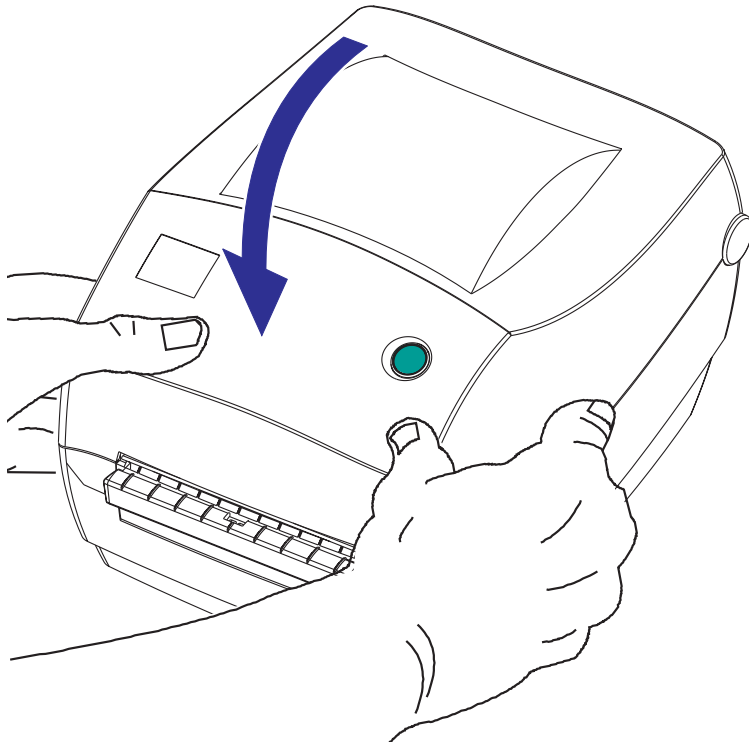


Release Cover

Note: This step applies to thermal transfer printers



Close Cover

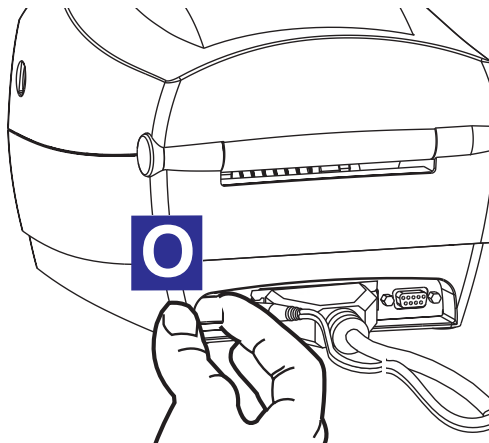


Step 4 AutoSense Media Gap Sensing

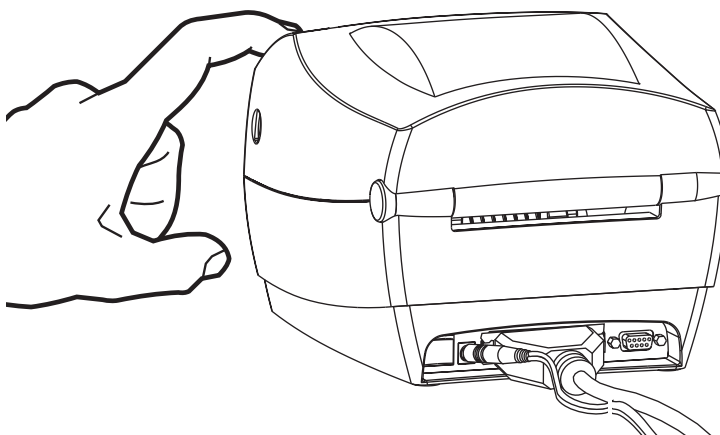


Perform this procedure when loading a new roll. If your printer has the label dispenser option, turn OFF the label taken sensor.

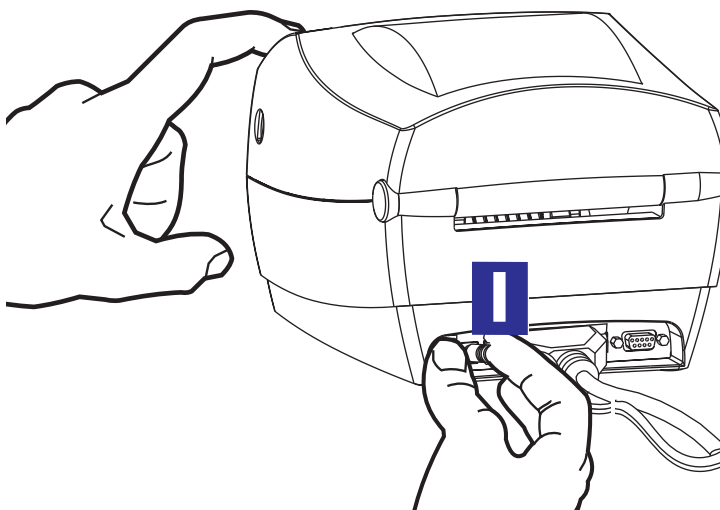
Power OFF



**Hold
Feed Button**

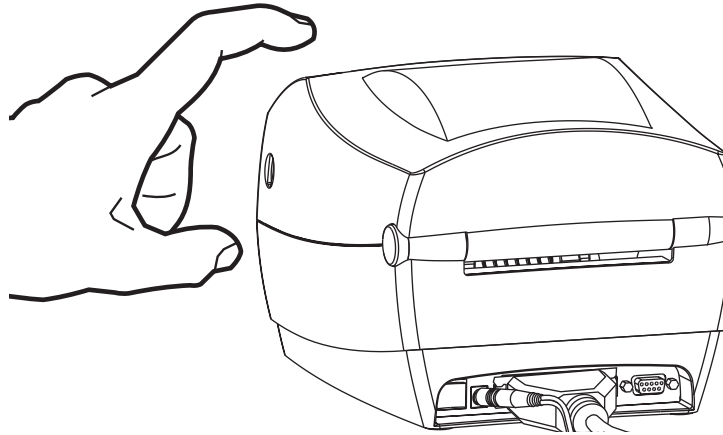


Power ON



AutoSense Gap Sensor Adjustment - continued

**When Indicator
Flashes, Release
Feed Button**



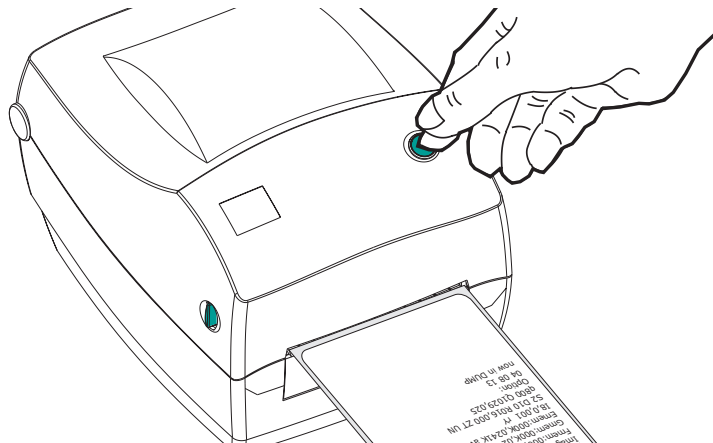
**Printer Advances
Media and Prints
Status Summary**

**Note: Printer is in
diagnostic dump mode**

```
UKQ1935   16 V3.21
Serial port : 96,N,8,1
Image buffer size:1032K
Fmem:000.0K,016.4K avl
Gmem:000K,0593K avl
Emem:000K,0593K avl
I8,0,001  rY
S2 D10 R016,000 ZT UN
q800 Q01225,026
Option:
04 08 13
now in DUMP
```

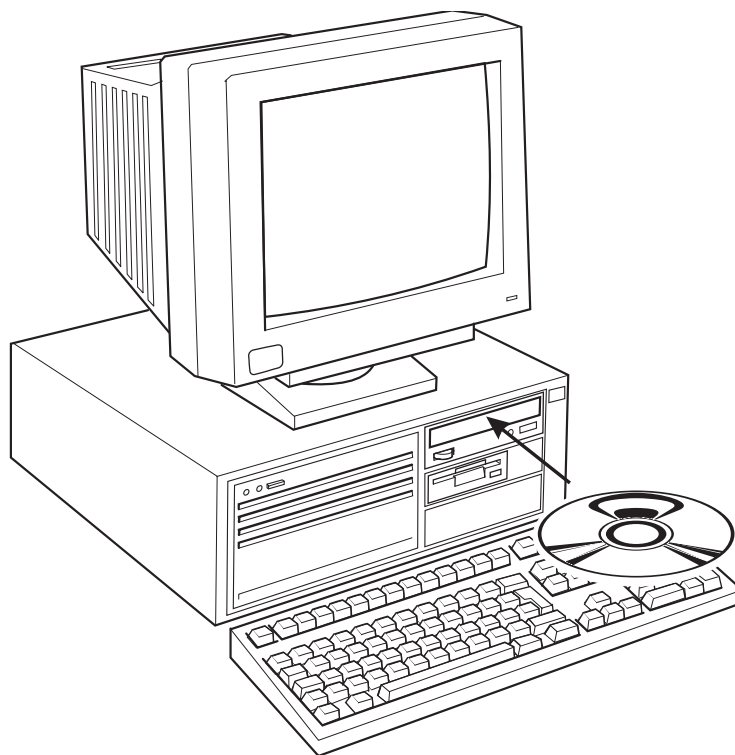
**Tap Feed Button
To Begin Normal
Operation**

**Note: Printer prints
"out of DUMP"**



If the indicator remains orange or red, see the troubleshooting steps.

Step 5 Install Software



Start your computer and follow the installation instructions on the compact disc (CD).

Operation The following information helps you get the most from your printer.

Programming Commands You must use programming to control many of the printer's functions. See the EPL2 programmer's manual for details. For example, the **Q** command controls form length and gap.

Printer Driver The printer driver provides a convenient control to improve print quality. For example, Print density (darkness) is affected by the heat energy (density setting) applied and by the print speed. Changing both Print Speed and Density may be required to achieve the desired results.

Thermal Printing: Direct or Transfer? You must use the correct media for the type of printing you require. When printing without a ribbon, you must use direct thermal media. When using ribbon, you must use thermal transfer media. The printer's ribbon sensor detects motion of the supply spindle.

Replacing Supplies When replacing media or ribbon, do not turn off the printer or data loss occurs. The printer automatically resumes printing after you load new supplies.

2 ***Using Options***

This section provides information on the printer's optional features:

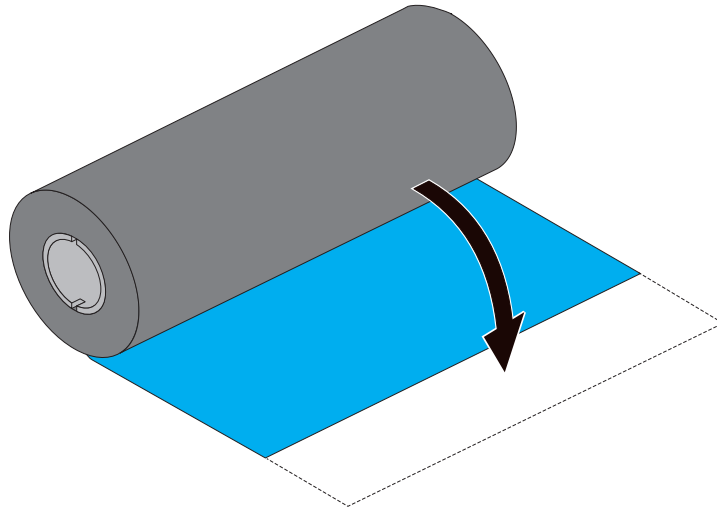
- thermal transfer printing
- label dispenser
- fan-fold media
- media cutter

Using Transfer Ribbon The TLP printer supports both direct thermal media (chemically treated to darken when heated) and thermal transfer media (accepts wax and/or resin transferred off a ribbon).

Step ❶ Prepare Ribbon

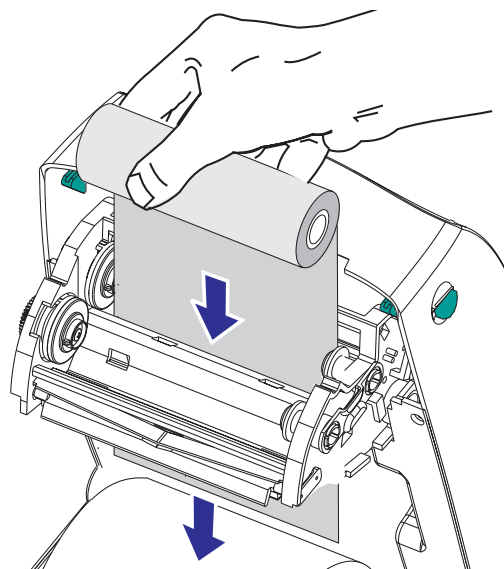


Pull Adhesive Strip Free

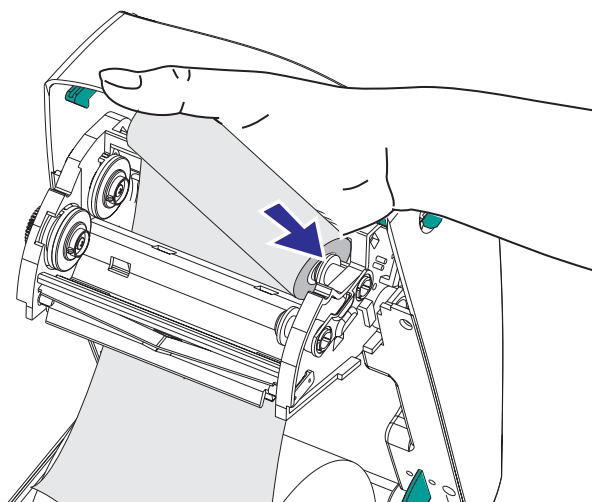


Step 2 Install Supply Roll

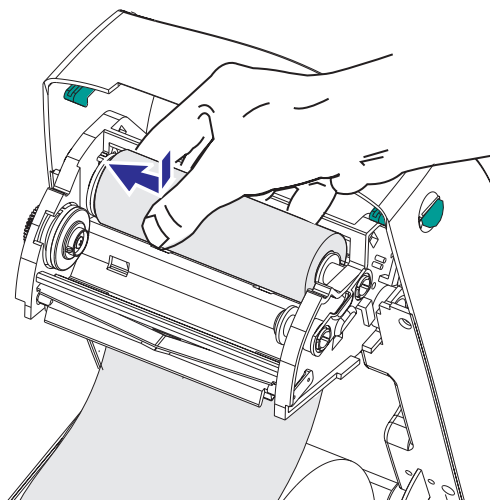
*Thread
Ribbon
Through
Carriage*



*Press
onto Hub*

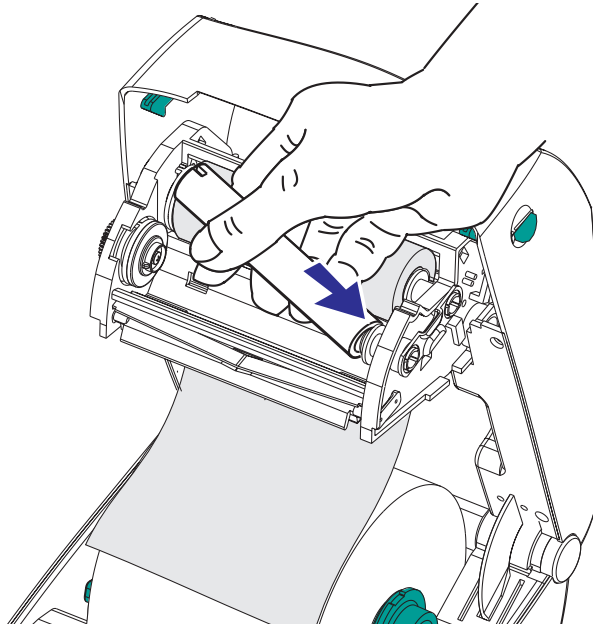


*Align Notches
onto Hub Spokes*

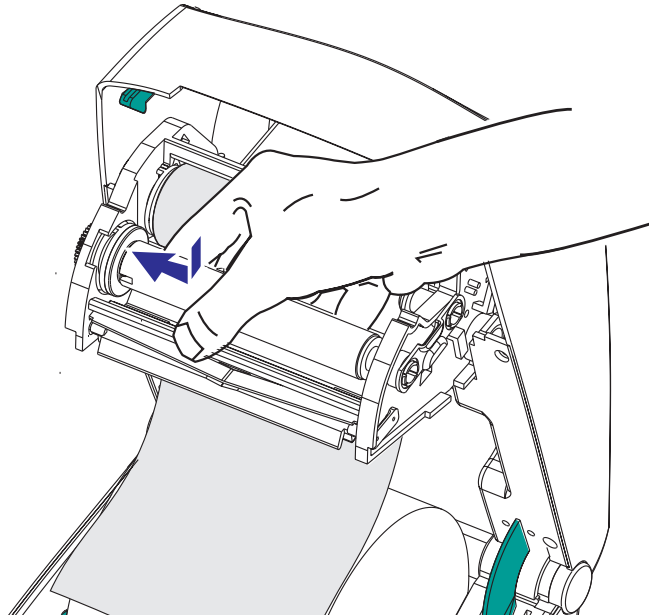


Step ③ Install Take-Up Core

***Press
onto Hub***



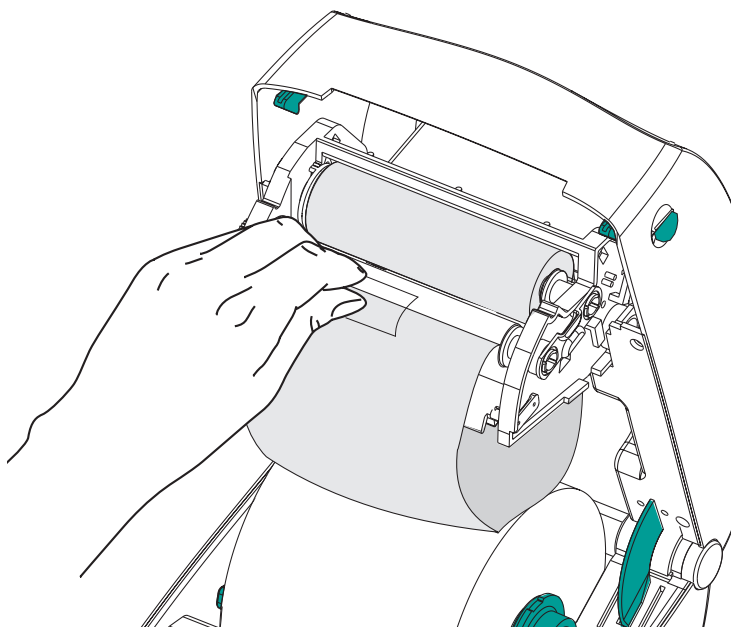
***Align Notches
onto Hub Spokes***



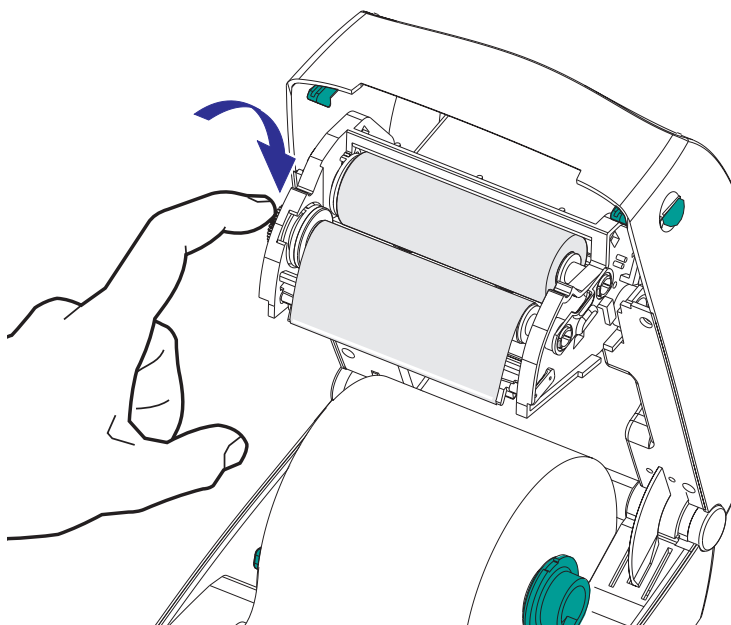
Step 4 Tighten Ribbon

Attach Ribbon to Take-Up Core

Note: Use the adhesive
strip on new rolls;
otherwise, use tape



Remove Slack From Ribbon



When using ribbon, make sure you also use thermal transfer media.

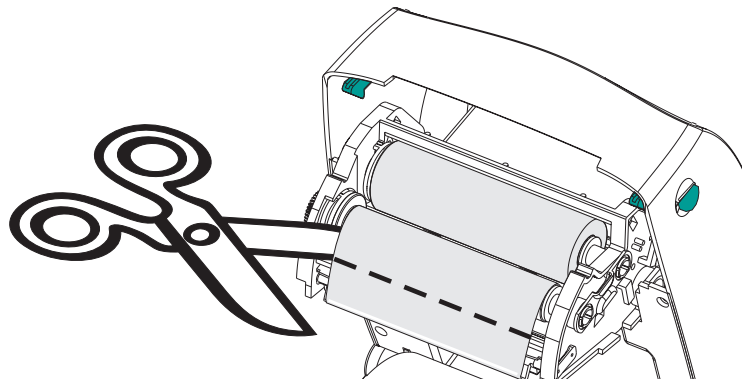
Adding a New Transfer Ribbon

If ribbon runs out in the middle of a print job, the indicator lights orange and the printer waits for you to add a fresh roll. Keep the power on as you change ribbon. Open the top cover, then cut the used ribbon so you can remove the cores. Load a new ribbon roll (refer to the previous procedure if necessary). Close the top cover. Press the Feed button to restart printing.

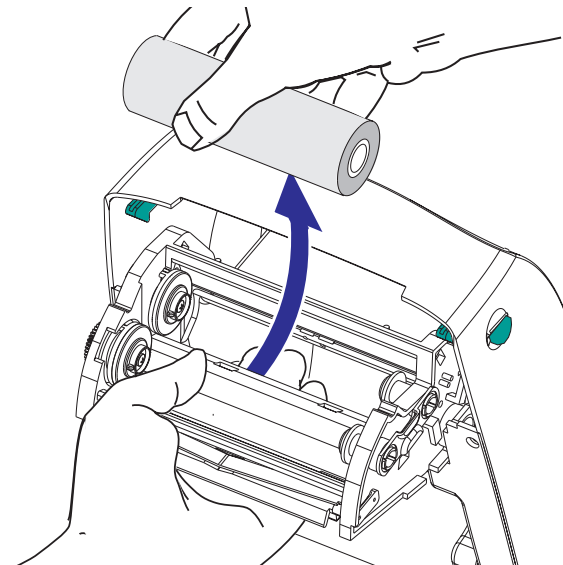
Replacing a Partially Used Transfer Ribbon

To remove used transfer ribbon, cut the ribbon from the take-up roll. Remove the take-up roll and discard used ribbon. Remove the supply roll and tape the end of any fresh ribbon to prevent it from unwrapping. When reinstalling a partially used supply roll, tape the cut end onto the empty take-up roll.

Cut Used Ribbon from Supply



Push Supply Roll Out

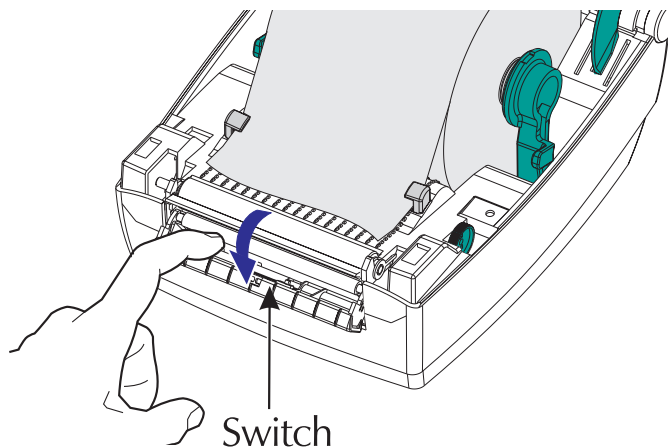


Using the Label Dispenser



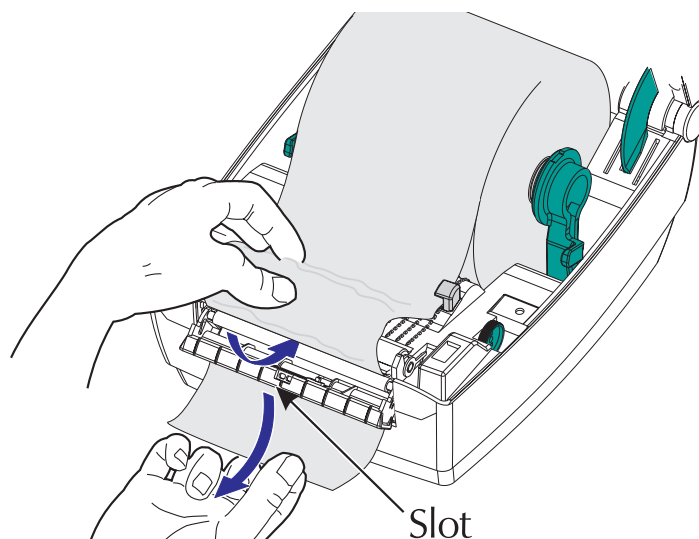
**Open
Door**

**Switch On
the Label
Taken Sensor**



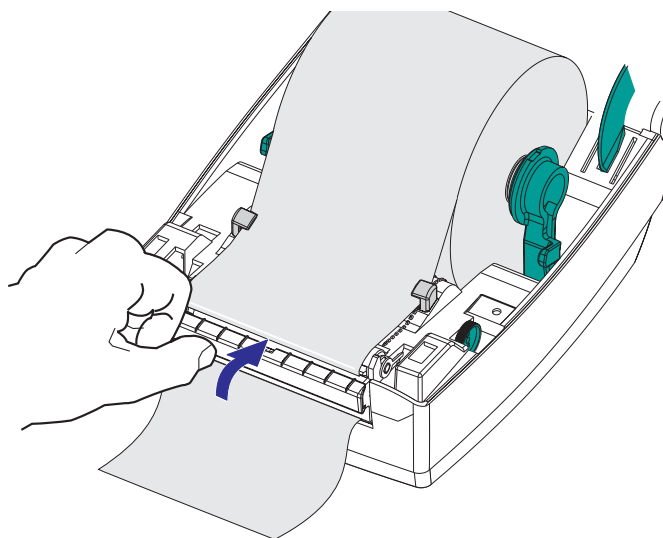
**Remove
Several
Labels**

**Push
Liner
Through
Slot**



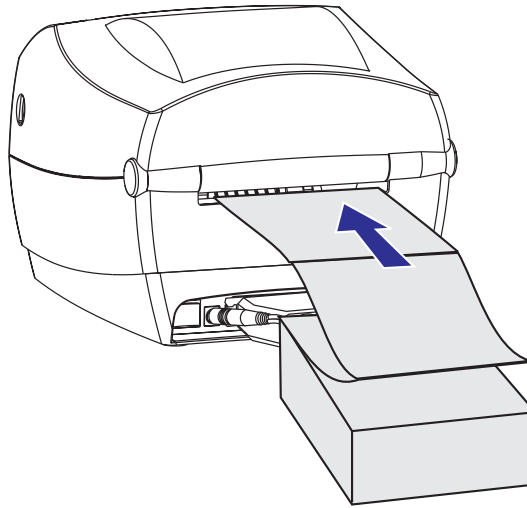
**Close
Door**

**Close
Top Cover
and Press
Feed Button**



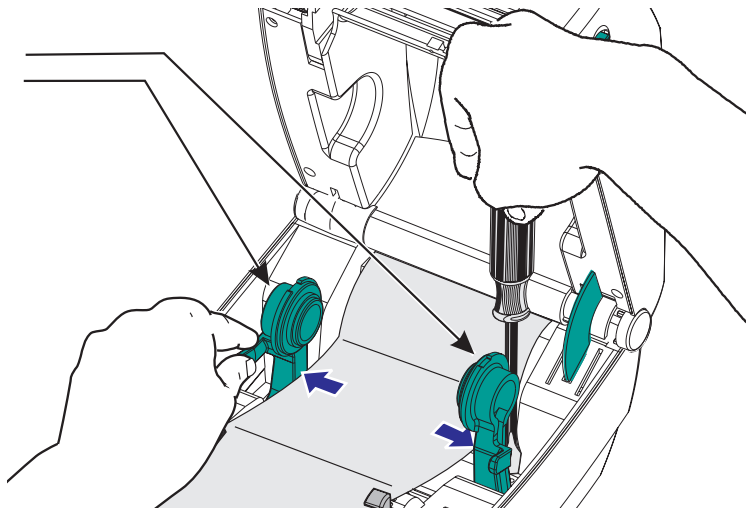
Using Fan-Fold Media

***Insert
Media***

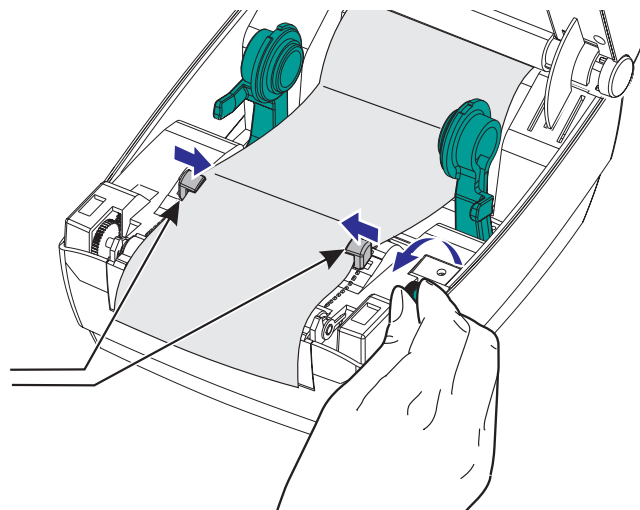


***Adjust Holders
to Width of Media***

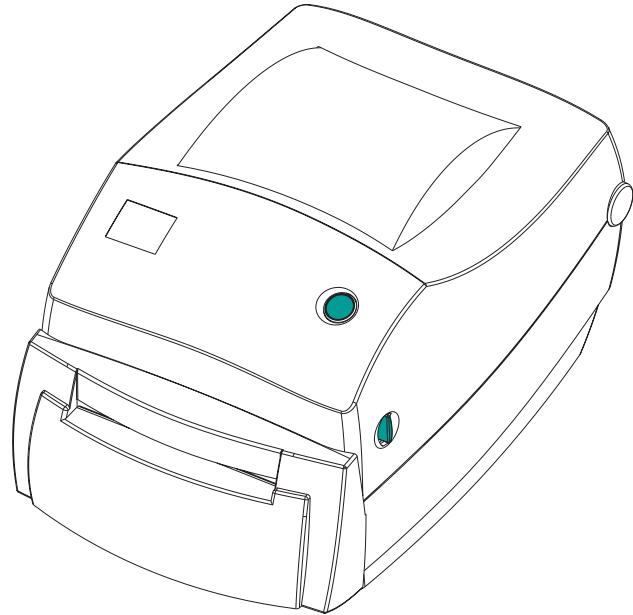
***Tighten Screw
(use a small
Phillips driver #1)***



***Adjust Guides
to Width of Media***



Using the Media Cutter Printers that have a bezel with a motorized blade can dispense one or more forms that are then automatically cut from the media supply.



This option cuts through continuous paper from rolls and liner between labels. The media can be up to 0.0055 inch (0.095mm) thick, 1.12 inch (28mm) to 4.25 inches (108mm) wide, and at least 0.75 inch (19.1mm) long. The density of media can be up to 120 grams/meter². Blade life is 1,000,000 cuts.

Use the **OC** command to activate the cutter and the **Q** command to set the form length and gap distance. See the EPL2 programmer's manual.

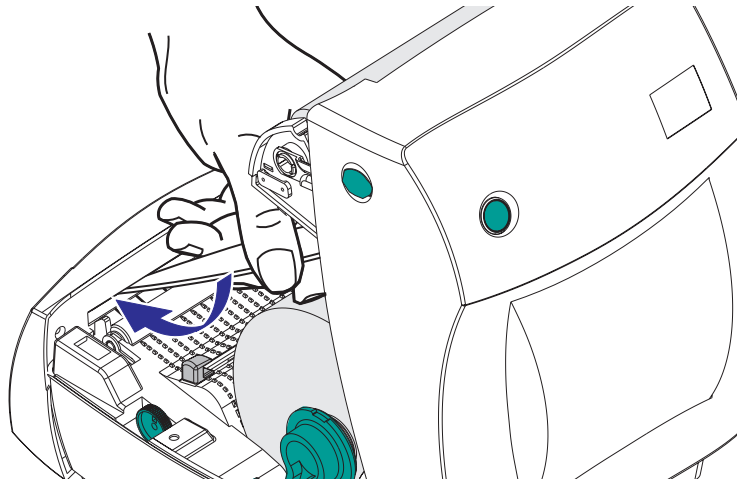
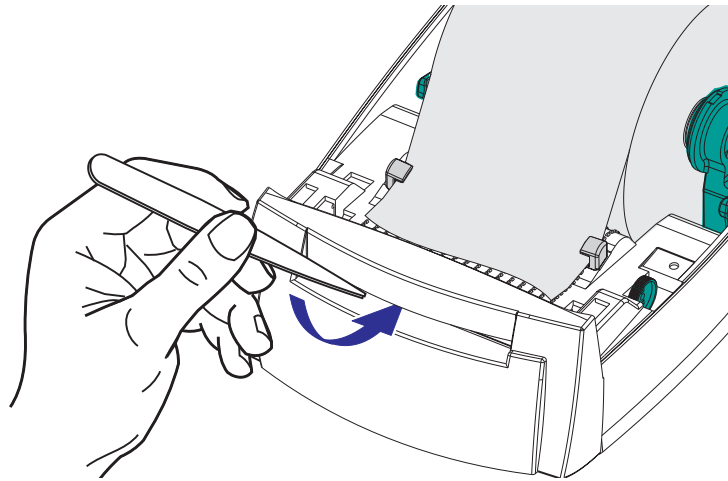
Clearing the Media Cutter

If the blade cuts through labels, adhesive can jam the cutter.



Turn OFF (O) printer power and unplug the power and interface cables before clearing the cutter.

Keep the cutter dry. Never use any solutions or solvents to clean the blade.



After removing debris, plug in the power and interface cables, turn on the printer, then test for normal operation.

Appendix A - Troubleshooting

Problem	Solution or Reason
STATUS Indicator	
Does not light after turning ON (I) printer.	<ol style="list-style-type: none"> 1. Check power connections from A.C. outlet to power supply to printer. 2. Check that media or ribbon is present.
Blinks GREEN.	<ol style="list-style-type: none"> 1. Printer receiving data through interface. 2. Signal to begin AutoSense after turning ON printer. Release the FEED button.
Blinks GREEN-RED-RED.	<ol style="list-style-type: none"> 1. Operator has paused the printer during a batch job. Tap the FEED button to continue.
Lights ORANGE.	<ol style="list-style-type: none"> 1. Ribbon is out. Reload a new supply. 2. The optional cover open sensor is active. Press top cover to close and lock. 3. Printer has a syntax or command error. Check program and resend print job.
Blinks ORANGE.	<ol style="list-style-type: none"> 1. Firmware download in process. Indicator lights red, then green.
Lights RED.	<ol style="list-style-type: none"> 1. Media is out. Reload a new supply. 2. Power-up failure. 3. Printer ready to receive flash programming during firmware download.
Printer Operation	
Lights GREEN, but printer will not print.	<ol style="list-style-type: none"> 1. Check interface cable connections from computer to printer. 2. Make sure top cover is locked closed. 3. Check that labels are correct. 4. Verify media has print surface up for printing. 5. Check that transfer ribbon is correctly routed and has the ink side out for thermal transfer printing.

Problem	Solution or Reason
Printer Operation--continued	
Printer appears to be working (media is being fed out), but nothing is printed.	<ol style="list-style-type: none"> 1. Verify that the labels are the correct type. 2. Check that the roll is loaded with the direct thermal side facing up. 3. Clean the print head with cleaning pen. 4. Ensure top cover is locked closed.
Printing is faded or poor quality.	<ol style="list-style-type: none"> 1. Clean the print head with cleaning pen. 2. Adjust print speed/darkness in software. 3. Check the media and verify that print surface is facing up. 4. Check the correct combination thermal transfer ribbon and media are in use.
Prints only partial label or skips a label.	<ol style="list-style-type: none"> 1. Perform AutoSense gap sensor adjustment on page 8. 2. Label caught on print head. 3. Top cover is not properly latched. 4. Possible software problem. Check the printer memory configuration. Refer to the EPL2 Programming manual.
Printing stops and STATUS indicator lights ORANGE or RED.	<ol style="list-style-type: none"> 1. Perform AutoSense gap sensor adjustment on page 8. 2. Possible problem with label stock. Use only Eltron approved labels and tags. 3. Possible label jam. 4. Insufficient memory for label size. Check the printer memory configuration. 5. Possible software problem. Refer to the EPL2 Programming manual.

Troubleshooting Media Handling

Problem	Solution or Reason
Label Dispenser	
Printing continues between labels.	<ol style="list-style-type: none"> 1. Make sure label-taken sensor is on. 2. The label-taken sensor is blocked or dirty. Remove any scraps or dust. 3. Continuous media may be set. Verify form length setting through programming Q command. See the EPL2 programmer's manual.
Prints one label and stops.	<ol style="list-style-type: none"> 1. Verify the quantity has been correctly set.
Cutter Operation	
Blade cuts through labels instead of cutting liner between labels.	<ol style="list-style-type: none"> 1. Verify form length setting through programming.
Media jammed in cutter.	<ol style="list-style-type: none"> 1. Unplug power and interface cables. Use tweezers to remove scraps from cutter opening.
Media fails to cut direct thermal paper or label liner.	<ol style="list-style-type: none"> 1. Use programming C command to cycle cutter several times without media to perform a self-cleaning. See the EPL2 programmer's manual. 2. Cutter must be replaced.

Other Support Resources The first troubleshooting reference source are the tables on the previous pages. Next, contact the dealer where you purchased your printer.

Zebra Technologies also provides a variety of information and user support services:

- **Internet:**

<http://www.eltron.com>

- **Technical Support e-mail:**

Label Printers: techsup@eltron.com

Europe: eurosup@eltron.com

Singapore: asiasup@eltron.com

Latin America: latinsup@eltron.com

- **Customer Service:** +1 (805) 579-1800
For the name of a dealer in your area.

- **Technical Support FAX:**

Asia: +65 84 20 366

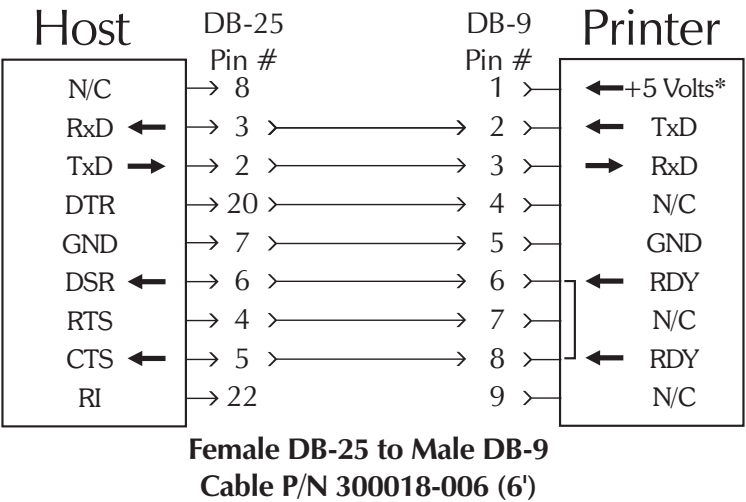
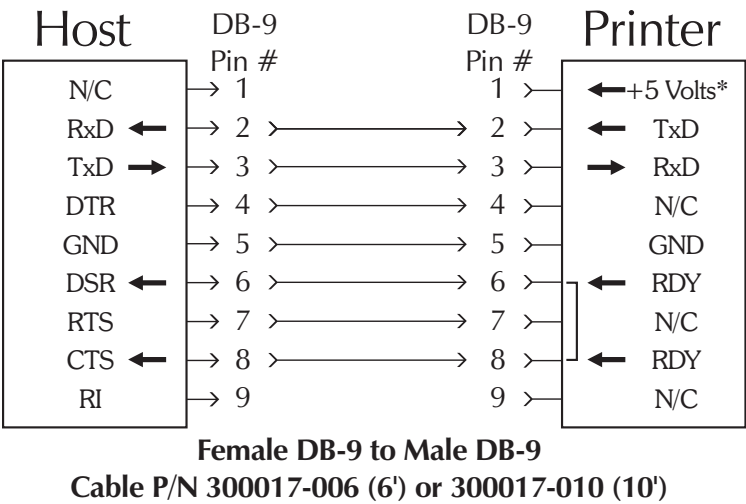
Europe: +44 (0) 1189 895 762

Latin America: +1 (847) 584 2725

For your assistance and support with Eltron printers and software.

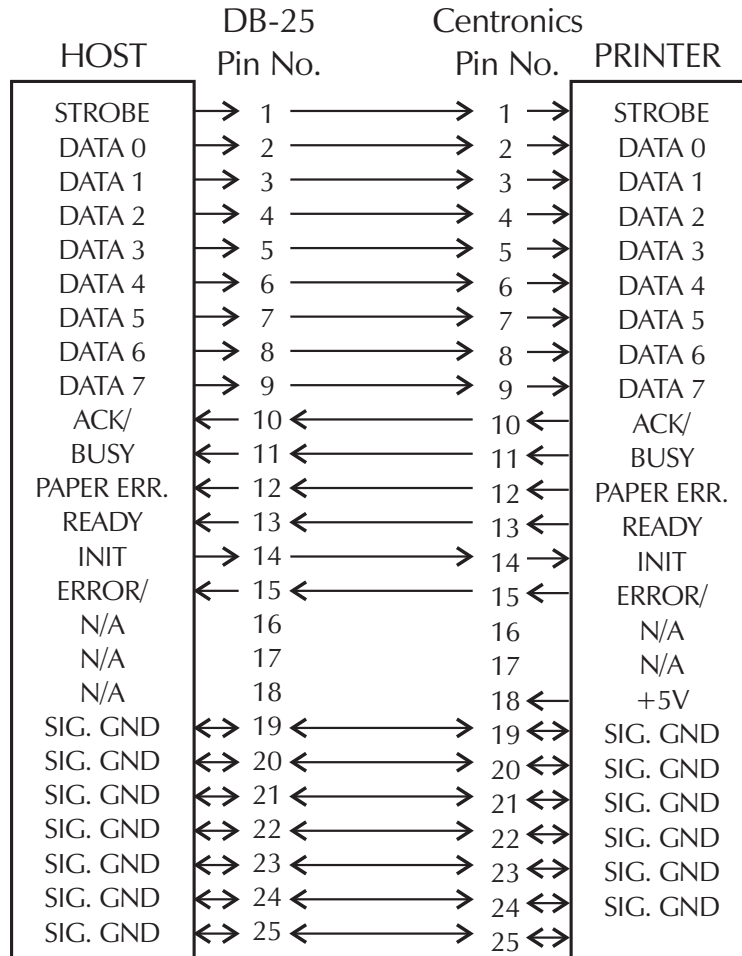
Serial Interface The figure below displays the cable wiring required to use the printer's RS-232 serial interface.

Cable Wiring



*+5 volts at 150 mA for external device (e.g. KDU or scanner)

Parallel Interface Cable Wiring The figure below displays the cable wiring required to use the printer's Centronics parallel interface.



**Female DB-25 to Male Centronics
(Cable)**

+5 volts at 300 mA for external device (e.g. KDU or scanner)

Universal Serial Bus (USB) The table below provides the contact terminating assignments by number and electrical value for the cable connectors.

Contact Number	Signal Name	Typical Wiring Assignment
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black
Shell	Shield	Drain Wire

You can refer to the Universal Serial Bus Specification for details regarding this interface.

Cleaning the Print Head When you load new media, you can also clean the print head.



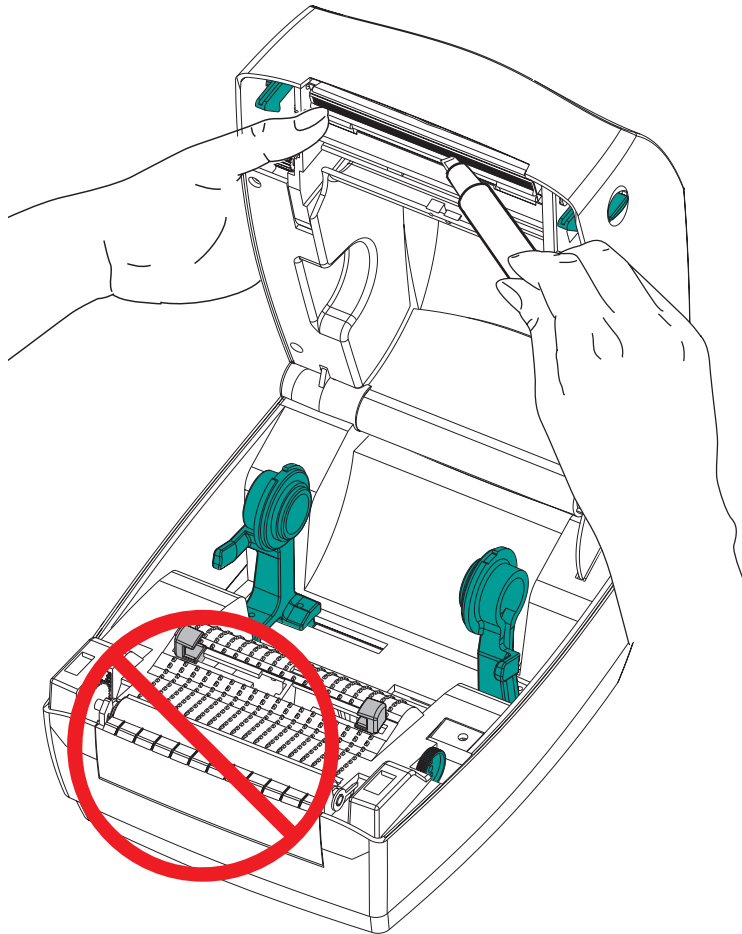
Turn OFF (O) the printer before performing this procedure.



***Rub
Cleaning
Pen Across
Dark Area
of Print Head***

***Wait
One Minute
Before Closing
Printer***

***Do Not Clean Roller
With Cleaning Pen***



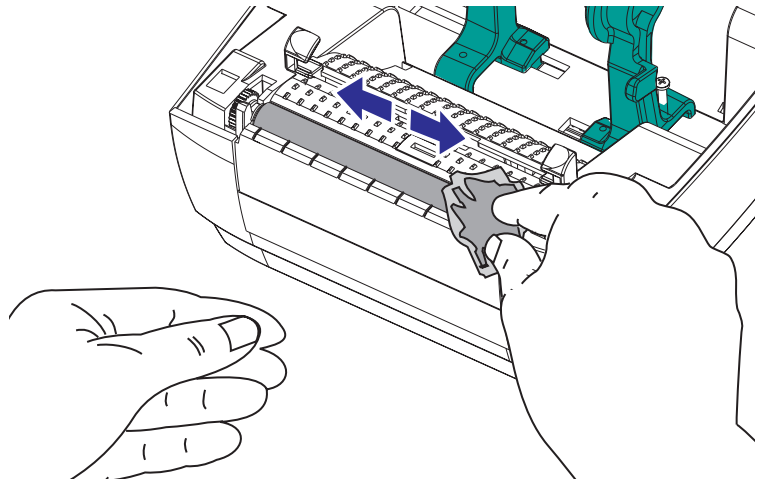
Cleaning the Platen The platen, over time, picks up adhesive and dust which requires occasional cleaning.

To follow these steps, you require a clean, lint-free cloth lightly moistened with isopropyl alcohol.

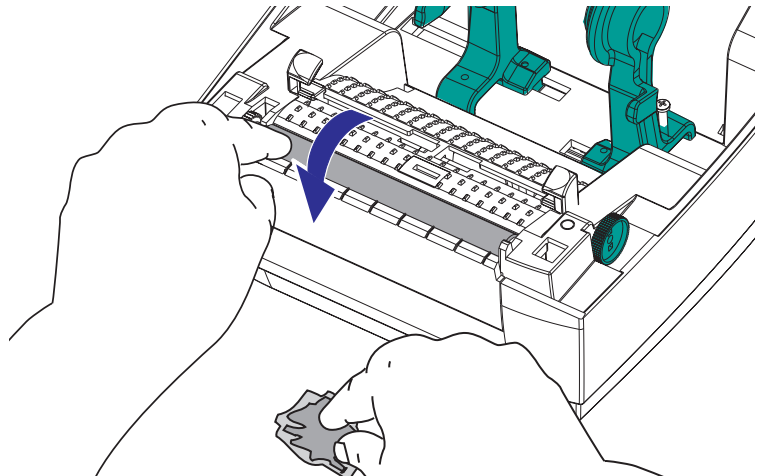


Turn OFF (O) the printer before performing this procedure.

***Gently Wipe
Top of Platen***



***Advance Platen
One-Sixth (1/6) Turn
(about 60°)***



***Repeat Steps Until
Platen is Clean***

Let the platen dry for at least one minute before loading media.

Appendix B - Accessories

Accessories available for the printer are listed below. Always refer to the ELTRON part number when placing an order. For the name of an Eltron brand dealer in your area, call: **1(805) 579-1800** or the nearest Zebra Technologies office (located on the back of this manual).

Description	Part Number
Parallel Interface Cable, 6'	300016-006
Parallel Interface Cable, 10'	300016-010
Serial Interface Cable, 6' (DB-9 to DB-9)	300017-006
Serial Interface Cable, 10' (DB-9 to DB-9)	300017-010
Serial Interface Cable, 6' (DB-25 to DB-9)	300018-006
USB Interface Cable, 6'	300283-001
USB Interface Cable, 10'	300283-010
Power Rewinder, 120V	103284-001
Power Rewinder, 230V	103284-002
Create-A-Label 3 Software for Windows	105524-001
Keyboard Display Unit	120180-001
PrintServer Communications Interface	46696
User's Manual (this manual)	980316-001
Programmer's Manual	980009-001
Software and Documentation CD	105551-005

World Wide Offices:

Zebra Technologies Corporation Eltron Products

1001 Flynn Road
Camarillo, CA 93012-8706 USA
Phone: +1 (805) 579 1800
FAX: +1 (805) 579 1808
e-mail: sales@eltron.com

Zebra Technologies, Europe

Zebra House
The Valley Centre, Gordon Road, High Wycombe
Buckinghamshire HP13 6EQ, UK
Phone: +44 (0) 1494 472872
FAX: +44 (0) 1494 450103
e-mail: eurosales@eltron.com

Zebra Technologies, France

50 rue Marcel Dassault
92100 Boulogne-Billancourt
France
Phone: +33 (0) 1 55 20 93 93
FAX: +33 (0) 1 55 20 93 99
e-mail: eurosales@eltron.com

Zebra Technologies, Latin America

6175 NW 153rd Street #121
Miami Lakes, FL 33014
Phone: +1 (305) 558 8470
FAX: +1 (305) 558 8485
e-mail: latinsales@eltron.com

Zebra Technologies, Asia/Pacific

1 Sims Lane #06-11
Singapore 387355
Phone: +65 84 20 322
FAX: +65 84 20 366
e-mail: asiasales@eltron.com



980316- 001A